

What is claimed is:

1. Nucleic acid sequences coding for proteolytic enzymes in the form of specific proteases
5 characterized by the fact that
the nucleic acid sequences are derived from the coldness-adapted *fragilariopsis cylindrus* marine diatom and code for a calpain-7-protease according to SEQ ID No.1 or for a zinc metalloprotease according to SEQ ID No. 2 or for functional variants of both proteases or that they are formed as
10 fragments with at least 8 nucleotides thereof.
2. The nucleic acid sequences in accordance with claim 1,
characterized by the fact that
the nucleic acid sequences are formed as DNA or RNA, preferably as
15 double-stranded DNA.
3. The nucleic acids in accordance with claim 2,
characterized by the fact that
the nucleic acid sequences are contained in vectors, preferably in
20 expression vectors.
4. The use of nucleic acid sequences in accordance with claim 3 for the
expression or hyper-expression of the calpain-7-protease and/o zinc
metalloprotease enzymes in host organisms.
25
5. Polypeptides corresponding to the nucleic acid sequences in
accordance with claim 1 which consist of amino acid sequences coded with
the nucleic acid sequences according to SEQ ID No. 1 and SEQ ID No. 2, as
functional variants thereof or a fragments thereof with at least 6 amino acids.
30
6. The use of the calpain-7-protease and zinc metalloprotease enzymes
in accordance with claim 1 for therapeutic purposes.

7. The use of the calpain-7-protease and zinc metalloprotease enzymes in accordance with claim 1 for purification purposes of proteinaceous contaminations.

5 8. The use of polypeptides in accordance with claim 5 for therapeutic purposes.

9. The use of polypeptides in accordance with claim 5 for purification purposes of proteinaceous contaminations.

10

15

20

25

30